We claim:

1. A device comprising one or more microneedles which are formed using a microfabricated mold.

2. The device of claim 1 wherein the microneedle is hollow.

3. The device of claim 2 wherein the microneedle is formed by a method comprising the steps:

(a) forming a micromold having sidewalls which define a surface of the microneedle;

(b) depositing material on sidewalls to form the hollow microneedle; and

(c) removing the micromold from the microneedle.

4. The device of claim 1 wherein the microneedles are formed of a metal.

5. The device of claim 4 wherein the metal is selected from the group consisting of nickel, iron, gold, titanium, tin, copper, stainless steel, platinum, palladium, and alloys thereof.

6. The device of claim 1 wherein the microneedles is formed of a polymer.

7. The device of claim 6 wherein the polymer is a biodegradable polymer selected from the group consisting of poly(hydroxy acid)s, polyanhydrides, poly(ortho)esters, polyurethanes, poly (butyric acid)s, poly(valeric acid)s, and poly(lactide-co-caprolactone)s.

8. The device of claim 1 wherein the microneedle is a microtube.

9. The device of claim 1 wherein the microneedle comprises a shaft having a circular or non-circular cross-sectional area perpendicular to the axis of the microneedle.

10. The device of claim 2 wherein the microneedle has an outer diameter between about 10 μm and about 100 μm.

11. The device of claim 10 wherein the microneedle has an inner diameter between about 3 μm and about 80 μm.

12. The device of claim 1 wherein the device comprises one or more shafts oriented perpendicular to the substrate.

13. The device of claim 1 further comprising gates or valves.

14. The device of claim 1 wherein the device is electrochemically, thermally, mechanically or magnetically active.

15. The device of claim 3 further comprising forming the mold using a laser to selectively remove material.

16. The device of claim 1 wherein the microneedles have a configured or grooved outer surface.

17. The device of claim 1 wherein the surface of the microneedles is formed of a material, or shaped to facilitate, passage of the microneedles or drug to be transported by means of the microneedles, through the skin.

18. The device of claim 1 wherein the microneedles form a mechanical support when inserted into a tissue.

19. The device of claim 18 wherein the mechanical support forms a vascular or urethral stent.

20. The device of claim 1 with flexible backing.

21. The device of claim 1 further comprising molecules to be released or delivered.

22. The device of claim 21 wherein the molecules are is incorporated into and released from the microneedles after the microneedles are administered.

23. The device of claim 22 wherein the microneedlers are formed of a biodegradable material and sheared off at the site of administration.

24. A method for making a microneedle, the method comprising forming a micromold having sidewalls which define a surface of the microneedle.

25. The method of claim 25 wherein one or more holes are photolithographically defined in a substrate, thereby forming the micromold.

26. The method of claim 24 further comprising applying a metal, or other material having different properties than the material forming the mold, to the sidewalls to form the hollow microneedle, and then removing the micromold from the microneedle.

27. The method of claim 24 further comprising filling the micromold with a fluid material that is hardened in the mold to form the microneedle.

28. The method of claim 27 which utilizes injection molding or reaction injection molding.

29. The method of claim 24 wherein the micromold is fabricated by forming a mold from a mold-insert.

30. The method of claim 29 wherein the mold insert is an array of microneedles.

31. The method of claim 30 for forming hollow microneedles, comprising the steps of

(a) layering a removable material onto the array to cover the microneedles of the mold-insert,

(b) removing a part of the layer of removable material to expose the tips the microneedles of the mold-insert, and

(c) removing the mold-insert to yield a micromold.

32. The method of claim 31 further comprising

(d) applying a metal, or other material having properties distinct from the material forming the mold, onto the micromold to form the microneedle, and

(e) removing the micromold from the microneedle.

33. The method of claim 24 wherein the micromold is shaped by embossing.

34. The method of 24 wherein the micromold is shaped using a laser to selectively remove material.

35. A device for delivery of material or energy into or across a biological barrier comprising one or more microneedles, wherein the microneedles are porous and/or comprise one or more hollow bores, and

wherein the material or energy is delivered from one or more chambers in connection with at least one of the microneedles.

36. The device of claim 35 further comprising a means for controlling the flow of material or energy through the microneedles.

37. The device of claim 35 wherein the means is selected from the group consisting of permeable membranes, fracturable impermeable membranes, valves, and pumps.

38. The device of claim 35 further comprising a means for temporarily securing the microneedle device to the biological barrier.

39. The device of claim 38 wherein the securing means is selected from the group consisting of collars, tabs, adhesive agents, and combinations thereof.

40. A method of transporting a material or energy into or across a biological barrier comprising

inserting into the biological barrier one or more microneedles which are porous and/or comprises one or more hollow bores, and

providing a driving force to transport the material or energy through at least one of the microneedles from one or more chambers which are in communication with at least one of the microneedles.

41. The method of claim 40 wherein the device has at least two chambers having one or more materials to be transported.

42. The method of claim 41 wherein at least one chamber contains a drug and at least one other chamber contains an administration vehicle, wherein the drug and vehicle are mixed together to form the material transported through at least one microneedle.

43. The method of claim 40 wherein the driving force is selected from the group consisting of diffusion, capillary action, electroosmosis, electrophoresis, mechanical pumps, convection, and combinations thereof.

44. A method for making hollow microneedles or microtubes comprising

forming a mask on a substrate,

selectively removing the substrate to form the microneedle or microtube shape, and

making a hollow bore in the microneedle or microtube shape.

45. The method of claim 44 wherein the bore is made prior to forming the microneedle or microtube shape.

46. The method of claim 44 wherein the bore is made after forming the microneedle or microtube shape.

47. The method of claim 44 for forming microneedles wherein the microneedle shape is formed by tapered outer walls of the substrate.

48. The method of claim 44 for forming microtubes wherein the bore is formed prior to initiating formation of the outer walls of the microtubes.